REMARKS

Claims 1-14 stand rejected under 35 USC 112, sixth paragraph as being indefinite. The sixth paragraph of 35 USC 112 does not contain a definiteness requirement, and therefore cannot provide the basis of a definiteness rejection. Moreover, it is incorrect for the examiner to assert that "measurement" does not specify a function with sufficient particularity to invoke 35 USC 112, sixth paragraph. The primary dictionary definition of measurement is "the act or process of measuring something." Nevertheless, applicant has amended the claims to replace "measurement means" with "measuring means."

Claims 1-14 stand rejected under 35 USC 102 over Iwakiri et al.

The present invention, as defined in claim 1, is concerned with a method of setting the knock detection sensor of a piston engine. In accordance with claim 1, the knock detection system comprises at least first and second sensors (referred to as 1 and 2 in the description of FIG. 1) for first and second cylinders of the engine (designated 7) and a measuring means connected to the sensors and providing first and second signals indicating intensity of knocking in the first and second cylinders respectively. The measuring means has at least first and second adjustment variables (the gain of the respective sensors) for adjusting the ranges of the first and second signals. The operative steps of the method comprise running the engine at a selected load less than full load, adjusting the first adjustment variable to bring the range of the first signal within preset limits and storing a corresponding value of the first adjustment variable, and adjusting the second adjustment variable to bring the range of the second signal within the preset limits and storing a corresponding value of the second adjustment variable. Thus, as shown in FIG. 2, by adjusting the gain of the sensor 1 in accordance with the waveform 6, the range of the signal produced by the sensor 1 is brought within the window 3, 4 and similarly adjusting the waveform of the signal produced by the sensor 2 in accordance with the waveform 5 brings the signal produced by the sensor 2 within the window 3, 4.

It is well known that knocking intensity depends on engine load and accordingly by running the engine at a selected load less than full load, the knocking intensity will be less than that which occurs at full load. In the event that the engine is subsequently run at full load, the knocking intensity will be higher and consequently the

signals produced by the sensors 1 and 2 will extend in range beyond the window 3, 4.

Iwakiri et al describes a heat measuring system for detecting knock in an internal combustion engine. Iwakiri et al teaches that knock should be detected by generating a signal representative of combustion pressure, removing high frequency components from this signal, processing the signal to derive a heat quantity produced by knocking and a total heat quantity produced in every engine cycle, and deriving a knock intensity on the basis of the relationship between the knock heat quantity and the total heat quantity.

The examiner relies on the paragraph at column 12, lines 3-15 as disclosing the step of running the engine at a load less than full load. This paragraph mentions that the computing means 61 calculates the polytropic exponent on the basis of the engine load and the engine speed, but does not refer to the engine being run at a load less than full load.

The examiner further relies on column 5, lines 28-60 and column 12, line 28 to column 13, line 17, as disclosing the step of adjusting the first adjustment variable to bring the range of the first input signal within preset limits and storing a corresponding value of the first adjustment variable. The passages referred to by the examiner do not disclose or suggest the step recited in claim 1. The passage at column 5, lines 28-60 relates to removing high frequency components from the input signal, such as engine vibration, and the passage starting at column 12, line 28, refers to derivation of a polytropic exponent, which relates ratio of compression pressures to cylinder volumes at two values of crank angle and is used for calculating the generated heat quantities during an operating cycle of the engine. In the circumstances, applicant submits that Iwakiri et al does not anticipate the invention as claimed in claim 1. Claim 1 is patentable and it follows that the dependent claims 2-7 also are patentable.

Claim 8 is narrower in scope than claim 1 and therefore the arguments presented above in connection with claim 1 are also applicable to claim 8. Applicant therefore submits that claim 8 is

patentable and it follows that the dependent claims 9-14 also are patentable.

Respectfully submitted,

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